

### **REMARKS**

Claims 1-27 are pending in the instant application. Claims 2-5, and 9-10 have been canceled and claims 11-24 and 26 have been withdrawn from consideration. Claim 1 stand objected to because of an informality. Claims 1, 6-8, 25 and 27 are provisionally rejected on the ground of nonstatutory double patenting over claims 1-3 and 10-16 of copending Application No. 2005/0232864 (Clark et al.). Claims 1 and 6 stand rejected under 35 USC § 102(b) as being anticipated by Ardenkjaer-Larsen et al. (WO00/40988). Alternatively, claims 1 and 6 are rejected under 35 USC §103 (a) as obvious over WO00/40988). Claims 7-8, 25 and 27 also stand rejected under 35 USC §103 (a) as obvious over WO00/40988. Reconsideration is respectfully requested.

Claim 1 has been amended by correcting the spelling error in section e) from “ware” to “are”.

Claims 1, 6-8, 25 and 27 are provisionally rejected on the ground of nonstatutory double patenting over claims 1-3 and 10-16 of copending Application no. 2005/0232864 (Clark et al.). This rejection is respectfully traversed.

Applicant respectfully submits that claims 1-3 and 10-16 have been amended in a response filed October 6, 2009. The amendments to the reference include the deletion of claims 2-8 and 13-14 and the amendment of claims 1, 9, and 15, such that claim 1 incorporates, eg, the limitations of claim 5. As the instant invention was deemed patentably distinct from claim 5 of the reference application, Applicant respectfully submits that the instant claims are likewise patentably distinct from the reference claims.

As the instant claims are thus patentably distinct over the reference claims, reconsideration and withdrawal of the rejection are respectfully requested.

Claims 1 and 6 stand rejected under 35 USC § 102(b) as being anticipated by Ardenkjaer-Larsen et al. (WO00/40988). Alternatively, claims 1 and 6 are rejected under 35 USC §103 (a) as obvious over WO00/40988). These rejections are respectfully traversed.

The objective technical problem solved by this method is to provide a method for determining *in vivo* protein activity using MR detection to determine the influence of a drug on the activity of a protein. Further, by using more than one probe compounds, the activity of a family of proteins, e.g. a family of different isoenzymes, may be determined (page 5, lines 8-12).

Ardenkjaer-Larsen (WO 00/40988) discloses NMR spectroscopic *in vitro* assays wherein the assay reagent is hyperpolarised. The assay reagent may be administered to a human or animal (page 17, lines 11-12) and NMR spectroscopic analysis may be performed of samples from said human or animal being. It further discloses that the assay may be a competition or binding assay wherein protein-protein interactions are studied (page 7). However, Ardenkjaer-Larsen is silent about using as an assay reagent probe compounds which interact with a certain protein or protein family and a putative drug and using the assay to determine the effect of the putative drug by comparing an NMR analysis of samples from a human or animal with and without the putative drug being present.

Thus, Ardenkjaer-Larsen fails to use at least two probe compounds which contain at least one NMR active nuclei, fails to generate a first NMR pattern from the samples taken from the human or non-human animate body preadministered with the at least two probe compounds are hyperpolarized, fails to generate a second NMR pattern from the NMR analysis of hyperpolarised samples taken from a human or non-human animate body preadministered with at least two probe compounds and at least a putative drug, and fails to compare the second NMR pattern to the first NMR pattern to identify distinctions in protein activity which are due to the at least one putative drug.

Further, the protein activity is determined by NMR as described in claim 1. In a next step a hyperpolarized mixture comprising at least two probe compounds and a putative drug are used and protein activity is determined by NMR. The two obtained NMR data sets are compared and differences are identified which may be present due to said putative drug. Ardenkjaer-Larsen does not describe such a method.

Given the reference thus fails to disclose each and every element of the instant invention, reconsideration and withdrawal of the rejection is respectfully requested.

Claims 7-8, 25 and 27 also stand rejected under 35 USC §103 (a) as obvious over WO00/40988. The rejection is respectively traversed.

Claim 7 and claim 25 are dependent claims, referring to claim 1. Claims 8 and 27 are dependent claims, referring to claim 7. As argued above, Applicants find that claim 1 is inventive over Ardenkjaer-Larsen, and hence claims 7-8, 25 and 27 are by definition

also inventive. Reconsideration and withdrawal of the obviousness objection is respectfully requested.

In view of the amendments and remarks hereinabove, Applicants respectfully submit that the instant application, including claims 1, 6-8, 25 and 27, is in condition for allowance. Favorable action thereon is respectfully requested.

Any questions with respect to the foregoing may be directed to Applicants' undersigned counsel at the telephone number below.

Respectfully submitted,

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